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L1: Entry 3 of 3

File: USPT

Jan 23, 2001

US-PAT-NO: 6177084DOCUMENT-IDENTIFIER: US 6177084 B1**** See image for Certificate of Correction ****TITLE: *S. aureus*fibrinogen binding protein

DATE-ISSUED: January 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Foster; Timothy James	Dublin			IE
McDevitt; Damien Leo	Dublin			IE

US-CL-CURRENT: 424/243.1, 424/184.1, 424/185.1, 424/190.1, 424/200.1, 435/243,
435/252.3, 435/320.1, 435/69.1, 435/69.3, 435/71.1, 530/350

CLAIMS:

What is claimed is:

1. An isolated *S. aureus* fibrinogen binding protein produced by a microorganism expressing a DNA molecule consisting of Sequence ID No. 1 or degenerates thereof.
2. An *S. aureus* fibrinogen binding protein according to claim 1 having *S. aureus* fibrinogen binding activity.
3. An isolated *S. aureus* fibrinogen binding protein produced by a microorganism expressing a DNA molecule encoding a protein having *S. aureus* fibrinogen binding activity as deposited in plasmid pCF3 at the NCIMB in Aberdeen, Scotland under Accession No. NCIMB40959 or degenerates thereof.
4. An isolated *S. aureus* fibrinogen binding protein produced by a microorganism expressing a DNA molecule encoding a protein having *S. aureus* fibrinogen binding activity as deposited in plasmid pCF10 at the NCIMB under Accession No. 40674 or degenerates thereof.
5. An isolated fibrinogen binding protein comprising an amino acid sequence selected from the group consisting of amino acids 23 to 550 of Sequence ID No. 2, 332 to 550 of Sequence ID No. 2, and 332 to 425 of Sequence ID No. 2.
6. A fibrinogen binding protein according to claim 1 immobilized on a solid surface.

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Foster; Timothy James	Dublin			IE
McDevitt; Damien Leo	Dublin			IE

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
The Provost, Fellows and Scholars of The College of the Holy and Undivided Trinity Dublin of Queen Elizabeth Near Dublin				IE	03	

APPL-NO: 09/ 421868 [PALM]

DATE FILED: October 19, 1999

PARENT-CASE:

This is a Divisional of application Ser. No. 08/293,728, filed Aug. 22, 1994, now U.S. Pat. No. 6,008,341.

INT-CL: [07] A61 K 39/085US-CL-ISSUED: 424/243.1; 530/350, 424/184.1, 424/185.1, 424/190.1, 424/200.1, 435/320.1, 435/243, 435/252.3, 435/172.3, 435/69.1, 435/69.3, 435/71.1US-CL-CURRENT: 424/243.1; 424/184.1, 424/185.1, 424/190.1, 424/200.1, 435/243, 435/252.3, 435/320.1, 435/69.1, 435/69.3, 435/71.1, 530/350FIELD-OF-SEARCH: 530/350, 530/387.1, 536/23.7, 424/243.1, 424/184.1, 424/185.1, 424/190.1, 424/200.1, 424/130.1, 424/139.1, 424/150.1, 424/164.1, 435/320.1, 435/243, 435/252.3, 435/172.3, 435/69.1, 435/69.3, 435/71.1

ART-UNIT: 161

PRIMARY-EXAMINER: Graser; Jennifer

ATTY-AGENT-FIRM: Larson & Taylor PLC

ABSTRACT:

The isolation of the S. aureus fibrinogen binding protein gene is described and a minimal fibrinogen binding protein is identified. The protein finds use as a vaccine or a pharmaceutical composition for application to prevent infection.

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File: USPT

Dec 28, 1999

US-PAT-NO: 6008341DOCUMENT-IDENTIFIER: US 6008341 A*Parent Case*TITLE: *S. aureus* fibrinogen binding protein gene

DATE-ISSUED: December 28, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Foster; Timothy James	Dublin			IE
McDevitt; Damien Leo	Dublin			IE

US-CL-CURRENT: 536/23.7; 435/243, 435/252.3, 435/320.1, 435/69.1, 435/69.3,
536/23.1

CLAIMS:

We claim:

1. An isolated DNA molecule consisting of Sequence ID No. 1 or degenerates thereof.
2. An isolated DNA molecule according to claim 1, encoding a protein having *S. aureus* fibrinogen binding activity.
3. An isolated DNA molecule encoding *S. aureus* fibrinogen binding activity as deposited in plasmid pCF3 at the NCIMB in Aberdeen, Scotland under Accession No. NCIMB40959 or degenerates thereof.
4. An isolated DNA molecule encoding *S. aureus* fibrinogen binding activity as deposited in plasmid pCF10 at the NCIMB under Accession No. 40674 or degenerates thereof.
5. An isolated plasmid containing a DNA molecule as claimed in any one of claims 1 to 4.
6. A microorganism transformed with a DNA molecule of any one of claims 1 to 4.
7. A microorganism transformed with a plasmid of claim 5.
8. A transformed host microorganism expressing the *S. aureus* fibrinogen binding protein gene as set forth in SEQ ID NO: 1.
9. An isolated DNA molecule according to claim 1 which encodes a contiguous repeat region comprising 154 repeats of the dipeptide serine-aspartate.

10. An isolated plasmid bearing a DNA molecule as claimed in claim 9.
11. A microorganism transformed with a DNA molecule of claim 9, or a plasmid of claim 10.
12. A diagnostic kit comprising a DNA molecule as claimed in claim 9.

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File: USPT

Dec 28, 1999

US-PAT-NO: 6008341DOCUMENT-IDENTIFIER: US 6008341 ATITLE: *S. aureus* fibrinogen binding protein gene

DATE-ISSUED: December 28, 1999

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McDevitt; Damien Leo	Dublin			IE

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
The Provost, Fellows and Scholars of the College of the Holy and	Dublin			IE	03	

APPL-NO: 08/ 293728 [PALM]

DATE FILED: August 22, 1994

INT-CL: [06] C07 H 21/04

US-CL-ISSUED: 536/23.7; 536/23.1, 435/69.1, 435/69.3, 435/252.3, 435/243.1, 435/320.1

US-CL-CURRENT: 536/23.7; 435/243, 435/252.3, 435/320.1, 435/69.1, 435/69.3, 536/23.1

FIELD-OF-SEARCH: 536/23.1, 536/23.7, 435/320.1, 435/69.1, 435/69.3, 435/252.3, 435/243.1

PRIOR-ART-DISCLOSED:

OTHER PUBLICATIONS

Amann, E. and Brosius, J. (1985). `ATG Vectors` for regulated high-level expression of cloned genes in *Escherichia coli*. *Gene* 40, 183-190.

Baier, R.E. (1977). The Organisation of blood components near interfaces. *Ann N.Y. Acad Sci* 283:17-36.

Boden, M.K., and Flock, J.I. (1989). Fibrinogen-binding protein/clumping factor from *Staphylococcus aureus*. *Infect. Immun.* 57:2358-2363.

Boden, M.K., and Flock, J.I. (1992). Evidence for three different fibrinogen binding proteins with unique properties from *Staphylococcus aureus* strain Newman. *Microbiol. Pathogen.*, 12(4), 289-298.

Boden, M.K., and Flock, J.I. (1994). Cloning and characterization of a gene for a 19kDa Fibrinogen-binding protein from *Staphylococcus aureus*. *Molec. Microbiol.* 12 (4), 599-606.

Chhatwal, G.S., Albohn, G. and Blobel, H. (1987). Interaction between fibronectin and purified staphylococcal clumping factor. *FEMS Microbiol. Lett.* 44, 147-151.